

Martin GmbH für Umwelt-

und Energietechnik

Our reference: 001/104/DE

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**PATENT CLAIMS**

1. A grate furnace with a grate consisting of grate steps composed [lacuna] grate elements lying next to one another, 10 of which grate steps in each case every second grate step in the longitudinal direction of the grate can be driven for carrying out stoking movements and the grate steps in each case lying therebetween are stationary, the drive devices for the movable grate steps being arranged under the grate in the 15 area of underblast chambers, wherein the drive devices (18) are arranged under the grate (4) and are protected by housings (25), each of which has a first longitudinal section (35), which is completely enclosed within the under-grate blast chamber (7), and a second longitudinal section (36), 20 which is only partially enclosed and sealed by the under-grate blast chamber (7) and is open (37) toward the bottom in this area and thus freely accessible from underneath.

2. The grate furnace as claimed in claim 1, wherein a

separate housing chamber (25) is provided for each drive device (18).

3. The grate furnace as claimed in claim 1 or 2, wherein each  
5 housing chamber (25) is thermally insulated.

4. The grate furnace as claimed in one of claims 1 to 3,  
wherein forced ventilation is provided for each housing  
chamber (25).

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5. The grate furnace as claimed in one of claims 1 to 4,  
wherein the housing (25) is of streamlined design in the flow  
direction of the primary air supplied for the grate furnace  
in at least one underblast chamber (7).

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6. The grate furnace as claimed in one of claims 1 to 5,  
wherein successive housing chambers (25) are staggered in  
relation to one another in a stepped manner following the  
grate inclination.

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7. The grate furnace as claimed in one of claims 1 to 6,  
wherein a drive device (18) is in each case assigned to two  
movable grate steps (15, 16).

8. The grate furnace as claimed in one of claims 1 to 7, wherein each drive device (18) comprises at least one hydraulic cylinder/piston unit (19, 20), the piston rod (20) of which is connected to a push rod (24) which is guided in a 5 sealed manner through the housing wall and engages on a carriage (9), to which at least one grate step (15, 16) to be moved is connected.

9. The grate furnace as claimed in claim 8, wherein the 10 piston rod (20) is connected to the push rod (24) by an articulation (23).

10. The grate furnace as claimed in claim 8 or 9, wherein the carriages (9) are guided on guide tracks (12) which run 15 parallel to the movement paths of the movable grate steps (15, 16) and are in each case arranged above a housing chamber (25) of an adjacent drive device (18).

11. The grate furnace according to one of Claims 1-10, 20 characterized in that each housing (25) is connected to its assigned under-grate blast chamber (7) by an opening, which can be closed by a flap (31).